

WHAT IS CLAIMED IS:

1. A data transfer method in an image forming apparatus which comprises a nonvolatile memory and is constituted by an engine section which forms an image
5 and a controller section which transmits image data to the engine section, comprising steps of:

establishing synchronization of data transfer by a predetermined control signal of serial communication when data should be transferred from the controller
10 section to the engine section to rewrite the nonvolatile memory; and

rewriting the nonvolatile memory by the data transferred in synchronism.

2. The method according to claim 1, wherein the
15 control signal is used as a predetermined signal in an image forming operation and as a sync signal in rewriting the nonvolatile memory.

3. The method according to claim 1, wherein the engine section controls the control signal to notify
20 the controller section of a state of the engine section.

4. The method according to claim 3, wherein the state of the engine section is one of a data transfer error, an erase or rewrite operation result of the
25 nonvolatile memory, and an end of the rewrite operation of the nonvolatile memory.

5. The method according to claim 1, wherein the

engine section controls the control signal to an OFF state in accordance with data reception from the controller section and to an ON state when preparation for next data reception is ended.

5 6. The method according to claim 1, wherein the controller section monitors a change of the control signal to an ON state for a predetermined time to detect a state of the engine section.

7. The method according to claim 6, wherein the
10 predetermined time changes depending on at least a size of the data to be transferred and a block size of the nonvolatile memory to be erased.

8. The method according to claim 1, wherein the data is a control program code data.

15 9. The method according to claim 1, wherein the control signal is a signal that indicates a state change of the engine section.

10. The method according to claim 1, wherein the nonvolatile memory is a flash memory.

20 11. An image forming apparatus which comprises a nonvolatile memory and is constituted by an engine section which forms an image and a controller section which transmits image data to the engine section, comprising:

25 means for establishing synchronization of data transfer by a predetermined control signal of serial communication when data should be transferred from the

controller section to the engine section to rewrite the nonvolatile memory; and

means for rewriting the nonvolatile memory by the data transferred in synchronism.

- 5 12. A controller section which transmits image data to an engine section which comprises a nonvolatile memory and forms an image, comprising:

interface means for interfacing with the engine section; and

- 10 mode designation data transmission means for transmitting mode designation data which designates a mode for rewriting the nonvolatile memory of the engine section.

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